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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,615	04/06/2000	KATSUYA SAITO	0145-148	9124

7590 03/04/2004

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EXAMINER

ROY, SIKHA

ART UNIT PAPER NUMBER

2879

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

KID

**Office Action Summary**

Application No.

09/544,615

Applicant(s)

SAITO ET AL.

Examiner

Sikha Roy

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 2 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 18, 2003 has been entered.

### ***Specification***

The disclosure is objected to because of the following informalities:

Page 6 line 17 'diameter of 01 to 08' should be replaced by --diameter of 1 to 8 mm--.

Page 10 line 7 'diameter of 04' should be replaced with --diameter of 4 mm--.

The informality regarding the missing unit of diameter occurs in few other pages of the specification. Applicant's cooperation is requested in correcting those errors.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,932,969 to Ikeuchi et al. and further in view of EP 1049134 to Tagawa et al.

Referring to claim 1 Ikeuchi discloses (Fig. 1 column 4 lines 22-53) a lamp having a lamp seal (sealing bodies) 50 comprising a functionally gradient material and a lead bar (upholding part 21 of anode, upholding part 31 of cathode 30) of made of tungsten wherein the functionally gradient material is formed of a sintered mixture of electrically non-conducting silica glass (silicon dioxide) and electrically conducting molybdenum, the mixing ratio varying continuously or incrementally from one end to the other with one end 51 being non-conducting (100% silicon dioxide) while the other end 52 being conductive (50% SiO<sub>2</sub> and 50% Mo). Furthermore Fig. 1 discloses there is a cylindrical gap located between the lead bar 21 and the functionally gradient material 50, the cylindrical gap being formed within the functionally gradient material by enlargement of the diameter of the insertion hole which extends from a point of attachment of the lead bar to the non-conductive end 52 of the seal material.

Claim 1 differs from Ikeuchi in that Ikeuchi does not exemplify the proportion of the conductive material at the point of attachment of the lead bar is no less than 0.6 vol% and no more than 39 vol%.

Tagawa in analogous art of lamp package made of functionally gradient material discloses (Fig. 3 column 6 line 56 through column 7 line 25) the sleeve-shaped part 34 where the lead bar 32 is attached to the functionally gradient seal 30 has the proportion

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of the conductive material 15 vol%. Tagawa further discloses that this configuration can effectively prevent the occurrence of cracking in seal piece 31.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the proportion of the conductive material in the seal part at the point of attachment of the lead bar of Ikeuchi to be 15% as suggested by Tagawa for effectively preventing the occurrence of cracking in seal piece

Regarding claim 3 Ikeuchi discloses in Fig. 1 that the hole expands in a tapered form from the point of attachment toward the non-conductive end 51 and the thickness of the functionally gradient material from point of attachment to the end 51 is less than its thickness at the point of attachment.

#### ***Allowable Subject Matter***

Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter.

Regarding claim 2 prior art of record fails to teach or suggest a lamp seal with limitations as claimed in claim 2 and particularly the limitation of diameter C of the cylindrical hole in the region from the non-conductive end of the functionally gradient material to the point of attachment of the lead rod satisfying the relation  $1.2d \leq C \leq 0.6D$  where d is the outer diameter of the lead bar and D is the outer diameter of the functionally gradient material.

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Claim 4 would be allowable because of its dependency status from claim 2.

***Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,375,533 to Torikai et al. discloses method of manufacturing of sealing bodies of a lamp having electrically conductive component and a dielectric material component sintered with the electrodes.

***Contact Information***

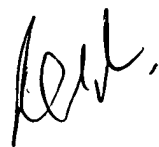
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy  
Patent Examiner  
Art Unit 2879



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